



Surface Mountable Miniature Quartz Crystals (High Temperature)

SUPPLEMENT TO CX DATA SHEETS

10 kHz to 2 MHz
10 MHz to 32 MHz

Model CX-1H/2H-SM for Series Oscillators Model CX-1V/2V-SM for Pierce Oscillators

Features

- ☐ Designed for surface mounting using infrared, vapor phase, or wave solder.
- ☐ Low profile, hermetically-sealed package.
- ☐ High shock resistance.

Description

Statek SM quartz crystals are leadless devices designed for surface mounting on printed circuit boards or hybrid substrates. 'H' models are intended for use in Series (two cascaded inverters) oscillators. 'V' models are intended for use in Pierce (single inverter) oscillators. Both are available in rugged, miniature ceramic packages. CX-1-SM parts are specifically designed for manufacturing processes below 270°C. For processes below 215°C, use the less expensive CX-1 leadless (see separate data sheet).

Specifications

Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice.

Frequency Range 10 kHz to 2 MHz

Calibration Tolerance From 5 ppm See CX data sheets

Motional Resistance, R_1 See Figure 1 and Figure 2

Quality factor, Q See Figure 3 and Figure 4

Operating Temperature -40 to +85°C

Storage Temperature -40 to +85°C

Assembly Temperature 270°C for 30 sec max

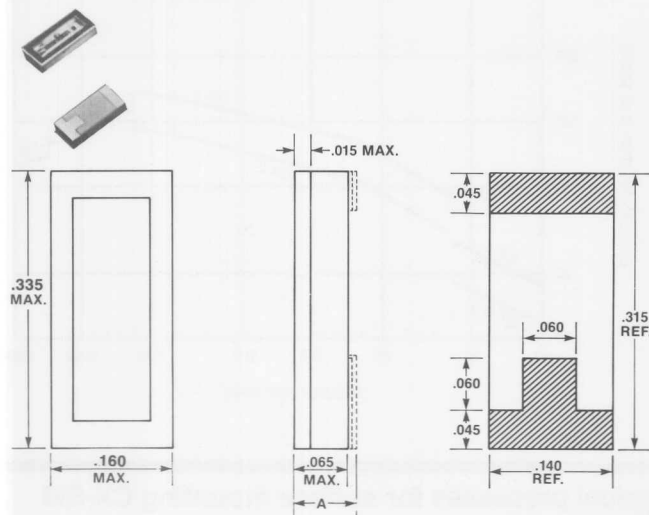
For specifications not listed, refer to Statek data sheets:

CX-1H 10-600 kHz

CX-1V 10-600 kHz

Microprocessor 600 kHz to 2 MHz

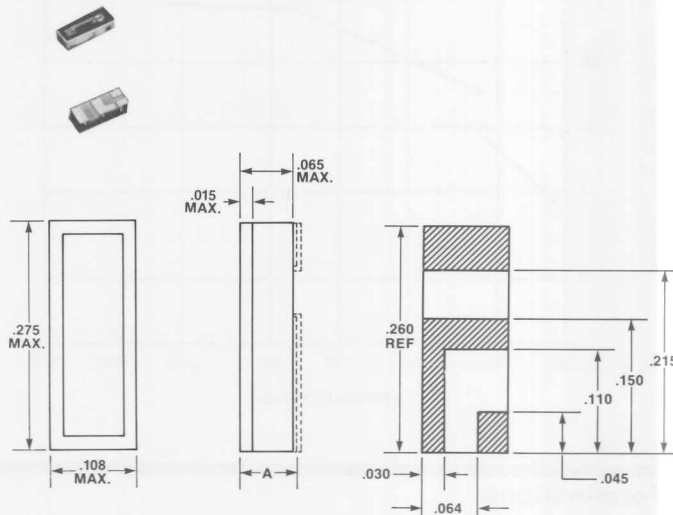
CX-1-SM Package Dimensions



NOTES:

- DIM "A" is 0.075" MAX. on solder plated parts.
- DIM "A" is 0.080" MAX. on solder dipped parts.
- Plating is not drawn to scale.

CX-2-SM Package Dimensions



NOTES:

- DIM "A" is .070 MAX. on solder plated parts.
- DIM "A" is .075 MAX. on solder dipped parts.
- Plating is not drawn to scale.



Figure 1. CX-1H/2H-SM Typical Motional Resistance, R_1

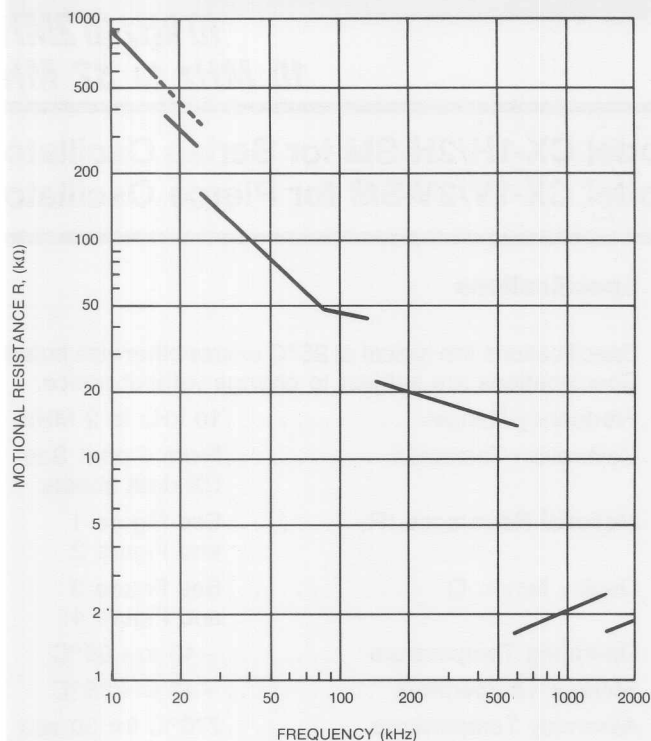


Figure 3. CX-1V/2V-SM Typical Motional Resistance, R_1

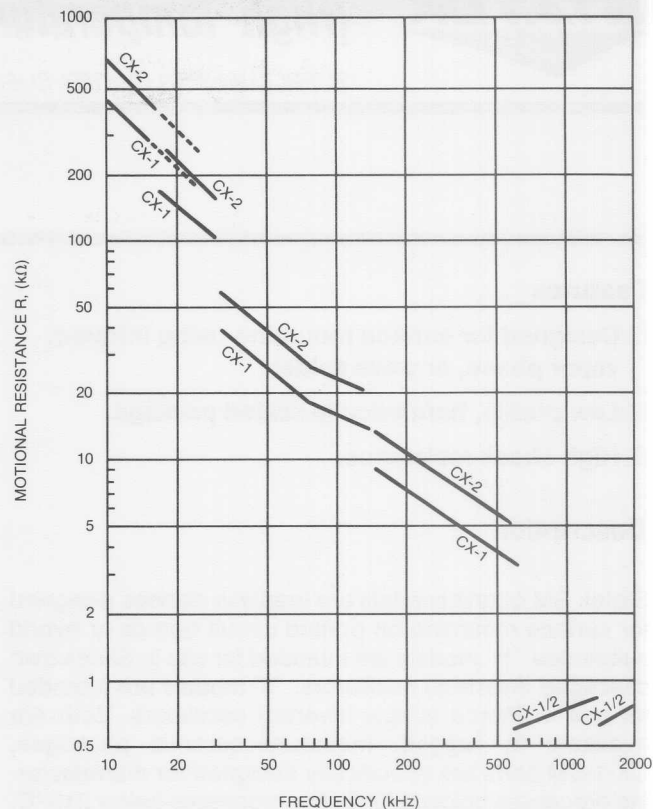


Figure 2. CX-1H/2H-SM Typical Quality Factor, Q

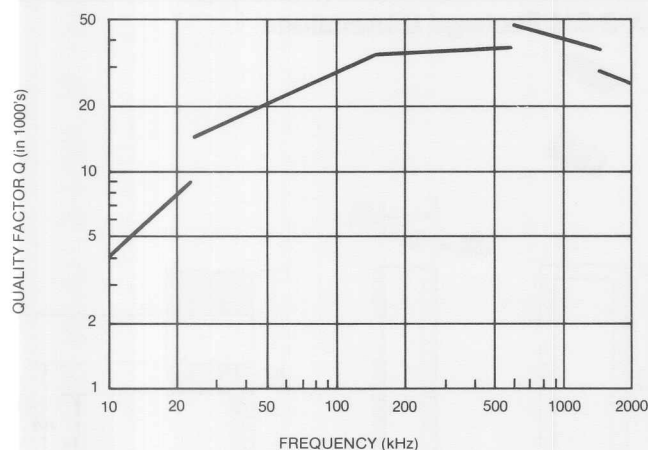
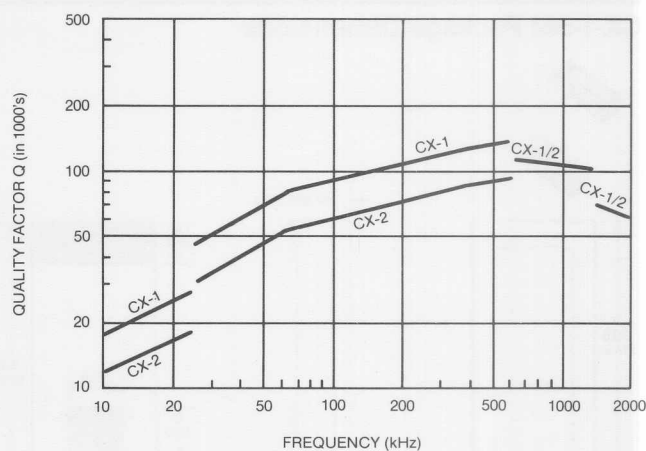


Figure 4. CX-1V/2V-SM Typical Quality Factor, Q



Terminations

Designation	Termination	Recommended Application
SM1	Gold Plated	Vapor Phase or Infrared Solder Reflow
SM2	Ni Sn Plated	Wave Solder
SM3	Ni Sn Plated, Solder Dipped	Wave Solder (long shelf life)

Packaging

CX-1	16mm Tape, Double Pitch, 7" or 13" Reels; Tray Pack; Bulk Pack
CX-2	12mm Tape, Single Pitch, 7" or 13" Reels; Tray Pack; Bulk Pack

Typical processes for surface mounting CX-SM crystals

- 1) Vapor Phase 215°C or 253°C for 10 sec to 5 min.
- 2) Wave Solder 260°C for 10 sec
- 3) Infrared 260°C for 10 sec
- 4) Conductive Epoxy less than 215°C

